

What is claimed is:

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1. A surface acoustic wave device comprising:
a LiTaO₃ substrate; and
an interdigital transducer provided on the LiTaO₃
substrate, said interdigital transducer containing as a major
component at least one of Au, Ag, Ta, Mo, Cu, Ni, Cr, Zn, and
W; wherein
said interdigital transducer has a normalized film
thickness H/λ of at least approximately 0.05 so as to excite a
shear horizontal wave.
2. A surface acoustic wave device according to claim 1,
wherein said interdigital transducer includes Au as a major
component, said substrate has Euler angles of approximately (0° ,
 $125^\circ - 146^\circ$, $0^\circ \pm 5^\circ$), and said normalized film thickness H/λ is
within the range of approximately 0.001 to 0.05.
3. A surface acoustic wave device according to claim 1,
wherein said interdigital transducer includes Ag as a major
component, said substrate has Euler angles of approximately (0° ,
 $125^\circ - 140^\circ$, $0^\circ \pm 5^\circ$), and said normalized film thickness H/λ is
within the range of approximately 0.002 to 0.05.
4. A surface acoustic wave device according to claim 1,
wherein said interdigital transducer includes Ta as a major
component, said substrate has Euler angles of approximately (0° ,
 $125^\circ - 140^\circ$, $0^\circ \pm 5^\circ$), and said normalized film thickness H/λ is
within the range of approximately 0.002 to 0.05.

5. A surface acoustic wave device according to claim 1, wherein said interdigital transducer includes Mo as a major component, said substrate has Euler angles of approximately (0° , $125^\circ - 134^\circ$, $0^\circ \pm 5^\circ$), and said normalized film thickness H/λ is within the range of approximately 0.005 to 0.05.

6. A surface acoustic wave device according to claim 1, wherein said interdigital transducer includes Cu as a major component, said substrate has Euler angles of approximately (0° , $125^\circ - 137^\circ$, $0^\circ \pm 5^\circ$), and said normalized film thickness H/λ is within the range of approximately 0.003 to 0.05.

7. A surface acoustic wave device according to claim 1, wherein said interdigital transducer includes Ni as a major component, said substrate has Euler angles of approximately (0° , $125^\circ - 133^\circ$, $0^\circ \pm 5^\circ$), and said normalized film thickness H/λ is within the range of approximately 0.006 to 0.05.

8. A surface acoustic wave device according to claim 1, wherein said interdigital transducer includes Cr as a major component, said substrate has Euler angles of approximately (0° , $125^\circ - 147^\circ$, $0^\circ \pm 5^\circ$), and said normalized film thickness H/λ is within the range of approximately 0.003 to 0.05.

9. A surface acoustic wave device according to claim 1, wherein said interdigital transducer includes Zn as a major component, said substrate has Euler angles of approximately (0° , $125^\circ - 138^\circ$, $0^\circ \pm 5^\circ$), and said normalized film thickness H/λ is within the range of approximately 0.003 to 0.05.

10. A surface acoustic wave device according to claim 1, wherein said interdigital transducer includes W as a major component, said substrate has Euler angles of approximately (0° , 125° - 138° , $0^\circ \pm 5^\circ$), and said normalized film thickness H/λ is within the range of approximately 0.002 to 0.05.

11. A communication device including the surface acoustic wave device according to claim 1.

12. A communication device including the surface acoustic wave device according to claim 2.

13. A communication device including the surface acoustic wave device according to claim 3.

14. A communication device including the surface acoustic wave device according to claim 4.

15. A communication device including the surface acoustic wave device according to claim 5.

16. A communication device including the surface acoustic wave device according to claim 6.

17. A communication device including the surface acoustic wave device according to claim 7.

18. A communication device including the surface acoustic wave device according to claim 8.

